

REMARKS

Applicant thanks the Examiner for the thorough consideration given the present application.

Claims 1 and 6-8 are currently pending. Claim 1 is independent. Claim 1 has been amended to clarify the present invention. Therefore, no new matter has been added by way of the present submission. In addition, no new issues have been raised which would require additional search and/or consideration on the part of the Examiner. In the event that the present submission does not place the application into condition for allowance, entry thereof is respectfully requested as placing the application into better form for appeal.

In view of the following remarks, Applicant respectfully requests that the Examiner withdraw all rejections and objection, and allow the currently pending claims.

Issues under 35 U.S.C. §112, second paragraph

The Examiner has rejected claims 1 and 6-8 under 35 U.S.C. § 112, second paragraph for the reasons recited at page 4 of the outstanding Office Action. Applicant respectfully traverses.

The Examiner has viewed the term “bulbous plants” as unclear. As far as Applicant and the ordinary skilled person understand, bulbous plants characteristically have storage organs at or below the soil surface. These organs may be true bulbs, corms, tubers, tuberous roots, rhizomes, stolons or pseudobulbs. Therefore, Applicant believes that the term of “bulbous plants” is clear.

However, to expedite prosecution while not conceding to the Examiner’s rejection, the term of “bulbous plants” has been changed into “tuberous plants” in claim 1.

Also, in the same context, the phrase “the bulbous plants inserted therein” recited in step d) of claim 1 has been modified to recite “the inserted tuberous plants”. Accordingly, the Examiner is respectfully requested to reconsider and withdraw this rejection.

Objection to the Claims

The Examiner has objected claims 1e), 7 and 8 because of certain informalities. Applicant respectfully traverses.

Without conceding to the Examiner’s objection, but to merely advance prosecution, the word “soil” in step 1e) of claim has been added at the end of this step.

Also, dependent claims 7 and 8 are objected to due to redundancy. However, these claims are not redundant since they use “consisting of,” which is closed language.

Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw these objections.

Issues under 35 U.S.C. §103(a)

The Examiner has rejected claims 1 and 6-8 under 35 U.S.C. § 103(a) as obvious over Nilsson, USP 4,628,633 (Nilsson) in view of Melvoid, USP 3,883,989 (Melvoid), Warner USP 4,551,165 (Warner), and Chapman USP 2,757,841 (Chapman). Applicant respectfully traverses this rejection.

Independent claim 1 of the present invention relates to a cultivation method for tuberous plants comprising the steps of: a) mixing (1) fertilizer comprising nitrogen (N), phosphorus (P) and potassium (K), (2) plant growth hormone comprising gibberellic acid (GA), (3) peatmoss, and (4) water-soluble glue, to obtain a pellet mixture; b) compressing and forming a pellet from

said pellet mixture prepared in Step a) by dividing the pellet mixture into a lid and a base; c) drying the pellet formed in Step b) to achieve a water content of 15 - 25 % by weight; d) inserting the tuberous plants in the dried base, covering the dried base having the inserted tuberous plants with the dried lid and compressing to produce a pellet with the inserted tuberous plants; and e) sowing the pellet obtained in Step d) without covering with soil.

In contrast to the present invention, the above specific steps and limitations are neither disclosed nor suggested by the cited art, especially the primary reference Nilsson. In the previous Reply dated July 31, 2007, Applicant explained the superior effects of the present invention by, for instance, referring to Figures 7 and 10 of the present application.

Nevertheless, in order to further demonstrate the significance of the patentable distinctions between the present invention and the cited art, Applicant conducted a side-by-side comparison. This experiment is attached to this Reply in the form of Declaration under 37 C.F.R. 1.132.

As seen from the attached Declaration, Applicant made a replication of the closest example of Nilsson making sure to use the same methods and materials disclosed in the TEST of Nilsson. Experiment I in the Declaration is directed to an assay for evaluating the growth of bulb size of the tuberous plants depending on the absence or presence of a fertilizer and a growth hormone are added. As shown in Table 1 of the Declaration, the claimed invention added a fertilizer and a growth hormone both to the peat moss while Nilsson did not. The results are shown in Table 2 and graphs following Table 2.

From these results, it is clear that the claimed invention achieves unexpectedly superior effects as compared to Nilsson in terms of tuber number, tuber weight, tuber diameter,

germination rate and number of leaves. Specifically, the claimed invention exhibits approximately twice the bulb size and growth effects as compared to Nilsson. This means that synergistic effects resulting from the combined of fertilizer and growth hormone, as suggested by the present invention, increases the bulb size, resulting in a higher growth of the tuberous plants.

Also, Nilsson fails to disclose a specific water content range (15% ~ 25%), as acknowledged by the Examiner. In this respect, Applicant conducted Experiment II showing that different water content ranges are an important factor that greatly influence the growth of the bulb size, and resultantly the growth of tuberous plants. As apparent from Table 3 and its five graphs, the claimed water content range (15~25%) of Example III reveals superior effects in terms of tuber member, tuber weight, tuber diameter, germination rate and number of leaves. When the water range value is presented as below 5% (Example I), 5-15% (Example II), 25-35% (Example IV), and 35-45% (Example V), respectively, the effect of the growth is quite lower than the claimed range (Example III). This is evidence that the selection of a specific water content range substantially impacts the bulb size, thus promoting a higher growth of tuberous plants. Specifically, when the water content is outside of 15-25%, the peat moss cannot be compressed, or the moisture contained in the peat moss is absorbed into the bulbs. As a result, as the stored nutrients become active, and accordingly, the size of bulbs, germination possibility and growth rate reduces. Therefore, the claimed invention is patentably distinct from the Nilsson reference.

Meanwhile, the Examiner has indicated that Melvoid discloses a similar water content range. However, this water content range 15~20% of Melvoid relates to the compressed peat moss without seeds. The seeds of Melvoid are inserted after the compressed peat moss is

expanded by the absorption of moisture. See column 5, lines 20-24 of Melvoid. In contrast, the water content range 15-25% of the present invention is directed to a compressed peat moss within bulbs. Therefore, the claimed range of the present invention cannot be equated with that of Melvoid. Also, Melvoid is directed to the peat moss in the form of plate shape, however, it is actually impossible to mechanize planting.

Further, Nilsson is not directed to capsule bulbs. Instead, Nilsson relates to providing a capsule for seeding. Nilsson fails to disclose or suggest drying process. Therefore, the seeds of Nilsson absorb the moisture inside the capsule. As a result, the bud comes out inside the capsule. This decreases germination possibility and thus, the cultivation process can not work effectively and efficiently.

Accordingly, as discussed above and demonstrated in the Declaration, it is evident that significant patentable distinctions exist between the presently claimed subject matter and the cited reference of Nilsson.

The deficiencies of the primary reference Nilsson cannot be cured by the second references for at least the reasons as discussed above. Also, since Nilsson's ball-type pellet capsule is not the same or similar to Melvoid's expandable wafer or plate-type peat moss unit, their preparation methods are very different, and thus Nilsson and Melvoid cannot be combined with each other. Further, regarding a growth hormone, Warner fails to disclose test data and test examples about plant growth assistant in detail, rather Warner merely mentions it. Warner is directed to a pelletization of seeds to inoculate with mycorrhizal. Therefore, Warner has nothing to do with a seed encapsulation of Nilsson. No reasonable reasons exist to combine Nilsson with Warner.

Accordingly, the claimed invention is not disclosed or made obvious by the cited art. The Examiner is therefore requested to reconsider and withdraw these rejections and put the present application in condition for allowance.

Conclusion

If the Examiner has any questions or comments, please contact Craig A. McRobbie, Reg. No. 42,874, at the offices of Birch, Stewart, Kolasch & Birch, LLP at the number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

Craig A. McRobbie
Registration No.: 42,874
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant

Attachments: Declaration under 37 C.F.R. 1.132 and its Appendix